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AGRICULTURAL MEMORANDUM NO 315

SHALLOT APHID IN SOUTH-WEST ENGLAND

0162611

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In a recent paper, Hurst (1) established a relationship between the departures from average maximum temperatures in February and March and the subsequent level of infestation of strawberry crops by the shallot aphid in south-east England. At the request of the Entomology Department this relationship was tested with data for south-west England. Records of shallot aphid attacks for 1958-68 were supplied by J D R Vernon Entomologist Bristol.

The boundary conditions defined by Hurst were:-

Maximum temperature anomaly:

February	less than +0.5°C	S
	+0.5°C or above	MH
February/March	less than 0.0°C	S
	0.0°C or above	MH

Air frost anomaly (based on East Malling data):

February	greater than 12 occasions	S
	12 occasions or less	MH
February/March	greater than 28 occasions	S
	28 occasions or less	MH

where S = slight infestation
MH = moderate or heavy infestation

The following meteorological data were used:

i Deviations of maximum temperature for district 8 (SW England and S Wales), Table I, Monthly Weather Report

ii Air frost frequencies for Long Ashton, Exeter and Plymouth (Mount Batten)

Forecasts of severity of shallot aphid infestation from February and February/March maximum temperature departures, and screen frost frequencies are given in the following table:

FH1

Year	Actual activity	Forecasts using February data: Based on maxima	Assessment	Based on frost freq.	Assessment	Forecasts using February/March data: Based on maxima	Assessment	Based on frost freq.	Assessment
1958	MH	MH	A	MH	A	S	B	MH	A
59	S	S	A	MH	B	MH	B	MH	B
60	MH	S	B	MH	A	S	B	MH	A
61	S	MH	B	MH	B	MH	B	MH	B
62	S	S	A	MH	B	S	A	S	A
63	S	S	A	S	A	S	A	S	A
64	S	S	A	MH	B	S	A	MH	B
65	S	S	A	MH	B	S	A	MH	B
66	MH	MH	A	MH	A	MH	A	MH	A
67	S	MH	B	MH	B	MH	B	MH	B
68	S	S	A	S	A	S	A	MH	B
Correct Forecasts			8		5		6		5
Wrong Forecasts			3		6		5		6

Key: S = slight infestation
MH = moderate or heavy infestation
A = correct forecast
B = wrong forecast

CONCLUSIONS

Forecasts of the infestation of strawberry crops by shallot aphids, based on criteria previously shown to be suitable for south-east England, were found to be inapplicable to data for south-west England. However, it is stressed that the period considered, 1958-68, was shorter than the original period 1949-68. Further, the assessments of infestation levels were subjective and non-numerical, and in a few years two interpretations were possible. No material difference was found in the overall accuracy score using the alternative interpretations. Finally, it should be pointed out that the level of the overwintering population of aphids will also influence the summer infestations and favourable spring weather will not necessarily lead to high summer infestations.

REFERENCE

(1) Hurst G W. Shallot Aphid in South-east England, Pl. Path. (1969), 18, 62-6

Any comments or suggestions on this paper should be sent to the author.

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February 1970

MET/1/70